2017 Stream Survey Report

LITTLE WOLF RIVER

Rotation (WBIC 272400)

Waupaca County

Prepared by Joe Dax

Introduction and Objectives

The Little Wolf River consists of 29.2 miles of Class I and II trout water as well as some warmwater sport fishery sections. The Little Wolf River originates at Moen Lake in Marathon county and flows southeast into Waupaca County, eventually becoming a tributary to the Wolf River. All of the classified trout water is located upstream from Big Falls in Waupaca County. Numerous road crossings, DNR property, and fishing easements provide fishing access to the Little Wolf River. Objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other gamefish present.

Regulations Category: Red **Size Limit:** Brown and Rainbow Trout over 12" Brook Trout over 8" **Daily Bag Limit:** 3 (in total)

WISCONSIN DNR CONTACT INFO.

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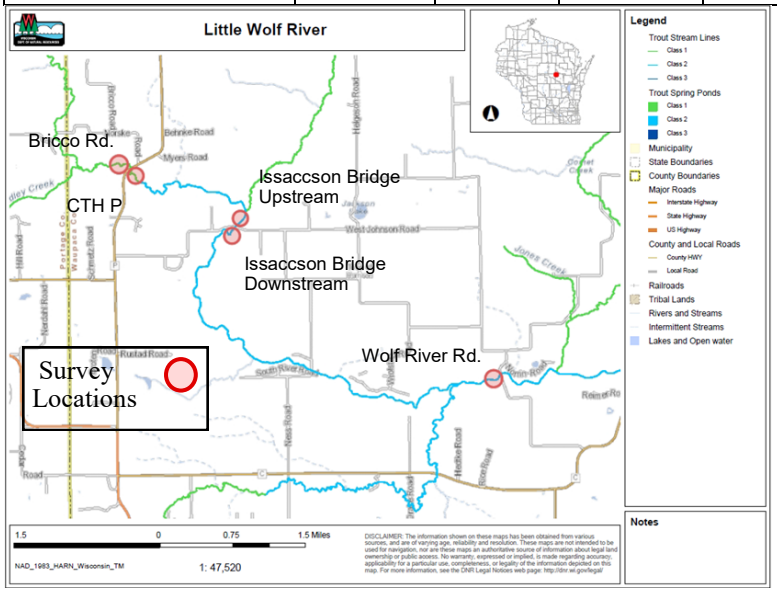
Survey Information

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Number of Netters	Index of Biotic Integrity
Bricco Rd	08/14/2017	910 ft	59	26.0 ft	44.66609, -89.22362 44.66733, -89.22507	Tow-Barge Shocker	3	Yes
Issaccson Bridge Upstream	08/21/2017	1,169 ft	60	33.5 ft	44.64308, -89.13858 44.64568, -89.18674	Tow-Barge Shocker	3	No
Issaccson Bridge Downstream	08/14/2017	1,099 ft	58	31.4 ft	44.64252, -89.19114 -	Tow-Barge Shocker	3	Yes
CTH P	08/17/2017	903 ft	61	25.8 ft	44.65174, -89.21028 44.65216, -89.21256	Tow-Barge Shocker	3	No
Wolf River Rd.	08/14/2017	1,470 ft	58	42.0 ft	44.62048, -89.13359 -	Tow-Barge Shocker	3	No



Survey Method

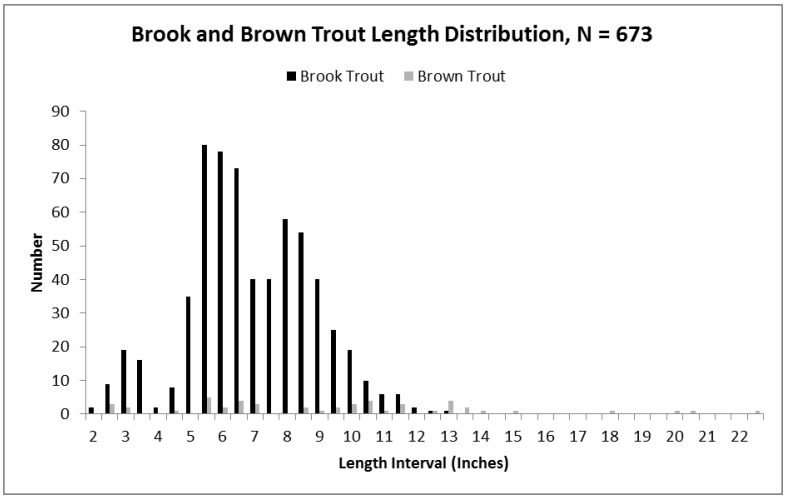
- All streams are sampled according to WDNR wadeable streams monitoring protocols. The Little Wolf River is on a three year rotation schedule with five sites identified for the segment of stream in Marathon and Waupaca County.
- All sampling stations are electrofished with either a towed barge shocker (pictured below) or backpack shocker.
- Sampling distance is at least 35 times the mean stream width or a minimum of 330 ft.(100 meters).
- All trout and other gamefish are measured for length and examined for fin-clips.
- In at least one stream segment (if multiple stations are being sampled) all fish species are collected and counted for calculation of an Index of Biotic Integrity (IBI).
- Metrics used to describe trout populations include average length, catch per unit effort (CPUE), and length frequency distributions.

Metric Descriptions

- **Catch per unit effort (CPUE)** is a method of quantifying fish population relative abundance. For all trout surveys, we typically quantify CPUE as the number of a given size class of trout captured per mile of stream. CPUE indexes are compared to other trout streams throughout the state of Wisconsin by what percentile (PCTL) they fall out in . For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state. CPUE percentiles can also be used to categorize trout abundance as low density (<33rd percentile), moderate density (33rd - 66th percentile), high density (66th - 90th percentile), and very high density (> 90th percentile).
- **Index of Biotic Integrity (IBI)** is a rating of environmental quality based on the fish assemblage. Scores of 90-100 indicate excellent stream quality while scores less than 30 indicate poor stream quality. Our analysis utilizes the IBI for Wisconsin coldwater streams. Coldwater streams in Wisconsin are those in which the maximum daily mean water temperature is usually <22°C (71.6°F). A coolwater stream IBI may also be used when a stream doesn't fit the temperature criteria for a coldwater stream.
- **Length frequency distribution** is a graphical representation of the number or percentage of fish captured by half inch or one inch size intervals.

Size and Abundance (CPUE) Metrics

Station	Species	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE calculated as the number of trout of a given size per mile (Number in parentheses represents the statewide percentile of a given metric)					
					Total CPUE (PCTL)	YOY CPUE	≥5" CPUE (PCTL)	≥8" CPUE (PCTL)	≥10" CPUE (PCTL)	≥12" CPUE (PCTL)
Bricco Rd	Brook trout	111	7.3	(2.2 - 11.6)	644 (78th)	41	599 (91st)	250 (97th)	47 (96th)	-
Issaccson Bridge - Upstream	Brook trout	155	6.6	(3.0 - 12.9)	700 (80th)	117	579 (91st)	204 (96th)	54 (97th)	9 (95th)
Issaccson Bridge - Downstream	Brook trout	118	6.7	(2.4 - 11.8)	567 (75h)	38	510 (90th)	149 (93rd)	14 (81st)	-
CTH P	Brook trout	187	7.6	(3.0 - 13.0)	1,093 (88th)	18	1,064 (97th)	450 (99th)	76 (98th)	6 (93rd)
Wolf River Rd.	Brook trout	53	7.9	(2.6 - 13.7)	190 (49th)	7	176 (66th)	94 (87th)	32 (93rd)	4 (90th)



Species Community and IBI for Bricco Rd.

Species Sampled	Total	IBI Score	Integrity Rating
BLACK CRAPPIE	1	Coldwater: 70	Coldwater: Good
BROOK TROUT	111		
BROWN TROUT	1		
CENTRAL MUDMINNOW	2		
COMMON SHINER	1		
CREEK CHUB	6		
GREEN SUNFISH	1		
JOHNNY DARTER	7		
MOTTLED SCULPIN	29		
NORTHERN HOG SUCKER	5		
NORTHERN PEARL DACE	7		
WHITE SUCKER	60		

Species Community and IBI for Issaccson Bridge - Downstream

Species Sampled	Total	IBI Score	Integrity Rating
BLACK CRAPPIE	1	Coldwater: 60	Coldwater: Good
BLUEGILL	1		
BROOK TROUT	118		
BROWN TROUT	14		
CENTRAL MUDMINNOW	2		
CREEK CHUB	16		
JOHNNY DARTER	13		
MOTTLED SCULPIN	13		
NORTHERN HOG SUCKER	4		
NORTHERN PEARL DACE	4		
WESTERN BLACKNOSE DACE	4		
WHITE SUCKER	51		
YELLOW PERCH	1		

Summary

- Brook trout density in the Little Wolf River was moderate to high with the total CPUE at all five sites being higher than the 49th percentile and the density of brook trout >5 in. being higher than the 66th percentile at all five sites.
- Young of year (YOY) density was found at low levels at most sites.
- The Little Wolf River provides a great fishery with the density of brook trout >8 being above the 87th percentile at all five sites, brook trout > 11.6 inches captured at all five sites, and brook trout >12 inches captured at three sites. Although rare, brown trout > 20 in. were also captured.
- Brown trout were captured at all sites along the Little Wolf River. At most sites, few brown trout were captured except 14 were captured at the Issaccson Bridge - Downstream site.
- The fish assemblage sampled in the Little Wolf River at Bricco Rd. and Issaccson Bridge - Downstream indicated a good coldwater environment.
- Overall, brook and brown trout numbers have increased from past surveys. For example, since 2014, total brook trout CPUE increased 1,212% at Wolf River Rd. and brook trout >10" trout increased 800% at that same site. Additionally, 14 brown trout were sampled at the Issaccson Bridge - Downstream site in 2017 compared to zero captured at that site in 2014.